Clarina 9,12,13 allewey

PATENT Docket No. 12218/3 Application S/N: 10/019,543 Response to February 8, 2005 Office Action

And. 5/6/2005

## **AMENDMENTS TO THE CLAIMS:**

Please amend the claims as shown below. The pending claims are as follows.

1. (Currently amended) A transformant

wherein at least one gene expression cassette, comprising a polyester synthesis-associated enzyme gene, a promoter and a terminator, has been introduced into a yeast which belongs to any of the genera *Candida*, *Hansenula*, *Kluyveromyces*, *Phaffia*, *Pichia*, *Schizosaccharomyces*, *Schwanniomyces*, *Trichosporon*, and *Yarrowia*.

2. (Previously presented) The transformant according to Claim 1

wherein a polyester which is obtained using said gene expression cassette is a copolymer resulting from the to copolymerization of 3-hydroxyalkanoic acids of the following general formula (1);

in the formula, R represents an alkyl group.

3. (Previously presented) The transformant according to Claim 1

wherein a polyester which is obtained using said gene expression cassette is a copolyester resulting from the copolymerization of 3-hydroxybutyric acid of the following formula (2) and 3-hydroxyhexanoic acid of the following formula (3);

$$C_3H_7$$
HO-CH-C-C-OH (3)

- 4. (Canceled)
- 5. (Previously presented) The transformant according to Claim 1 wherein the yeast is *Yarrowia lipolytica*.
- 6. (Canceled)
- 7. (Previously presented) The transformant according to Claim 1 wherein said promoter and said terminator function in the yeast.
- 8. (Previously presented) The transformant according to Claim 7 wherein the promoter and terminator are isolated from *Yarrowia lipolytica*.
- 9. (Currently amended) The transformant according to Claim 7 A transformant
  wherein at least one gene expression cassette, comprising a polyester synthesis-associated
  enzyme gene, a promoter and a terminator, has been introduced into a yeast which belongs to any
  of the genera Candida, Hansenula, Kluyveromyces, Phaffia, Pichia, Schizosaccharomyces,
  Schwanniomyces, Trichosporon, and Yarrowia, and

wherein the promoter is isolated from Yarrowia lipolytica ALK3 gene encoding an nalkane-inducible cytochrome P450.

- 10. (Currently amended) The transformant according to Claim 7
  wherein the terminator is isolated from Yarrowia lipolytica XPR2 gene encoding an alkaline extracellular protease.
- (Previously presented) The transformant according to Claim 7
   wherein the promoter and terminator are isolated from Candida maltosa.
- (Currently amended) The transformant according to Claim 7 A transformant

  wherein at least one gene expression cassette, comprising a polyester synthesis-associated

  enzyme gene, a promoter and a terminator, has been introduced into a yeast which belongs to any

of the genera Candida, Hansenula, Kluyveromyces, Phaffia, Pichia, Schizosaccharomyces, Schwanniomyces, Trichosporon, and Yarrowia, and

wherein the promoter is isolated from Candida maltosa ALK1 gene encoding an n-alkane-inducible cytochrome P450.

(Currently amended) The transformant according to Claim 7 A transformant wherein at least one gene expression cassette, comprising a polyester synthesis-associated enzyme gene, a promoter and a terminator, has been introduced into a yeast which belongs to any of the genera Candida, Hansenula, Kluyveromyces, Phaffia, Pichia, Schizosaccharomyces, Schwanniomyces, Trichosporon, and Yarrowia, and

wherein the terminator is isolated from Candida maltosa ALK1 gene encoding an n-alkane-inducible cytochrome P450.

- 14. (Previously presented) The transformant according to Claim 1 wherein the polyester synthesis-associated enzyme gene is isolated from Aeromonas caviae.
- 15. (Currently amended) The transformant according to Claim 1
  wherein the polyester synthesis-associated enzyme gene comprises a
  polyhydroxyalkanoate synthase gene isolated from Aeromonas caviae or the
  polyhydroxyalkanoate synthase gene and a (R) specific encyl-CoA hydratase gene.
- 16. (Currently amended) The transformant according to Claim 15 wherein said polyhydroxyalkanoate synthase gene has the sequence represented by of SEQ ID NO:3

and the (R) specific encyl CoA hydratase gene has the sequence represented by SEQ ID NO:4.

17. (Previously presented) A method of producing a polyester using the transformant according to Claim 1

which comprises growing said transformant and harvesting a polyester from the

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resulting culture.

- 18. (Currently amended) An isolated polyester synthesis-associated enzyme gene wherein at least one codon CTG is replaced with codon TTA, TTG, CTT, CTC or CTA, and said gene functions expresses its function in a yeast which translates the codon CTG into serine.
- 19. (Previously presented) The polyester synthesis-associated enzyme gene according to Claim 18 which codes for an enzyme isolated from a bacterium.
- 20. (Original) The polyester synthesis-associated enzyme gene according to Claim 19 wherein said bacterium is *Aeromonas caviae*.
- 21. (Previously presented) The polyester synthesis-associated enzyme gene according to Claim 20 wherein the enzyme gene isolated from *Aeromonas caviae* is a polyhydroxyalkanoate synthase gene or a (R)-specific enoyl-CoA hydratase gene.
- 22. (Previously presented) The polyester synthesis-associated enzyme gene according to Claim 21 wherein said polyhydroxyalkanoate synthase gene has the sequence represented by SEQ ID NO:3.
- 23. (Original) The polyester synthesis-associated enzyme gene according to Claim 21 wherein said (R)-specific enoyl-CoA hydratase gene has the sequence represented by SEQ ID NO:4.
- 24. (Previously presented) The transformant according to Claim 1, wherein said yeast belongs to the genus *Yarrowia*.
- 25. (Canceled)
- 26. (New) A transformant

wherein at least one gene expression cassette has been introduced into a yeast, and said gene expression cassette comprises the polyester synthesis-associated enzyme gene according to claim 18.

- 27. (New) A method of producing a polyester using the transformant according to claim 26, which comprises growing said transformant and harvesting a polyester from the resulting culture.
- 28. (New) A transformant

wherein at least one gene expression cassette has been introduced into a yeast belonging to the genus Candida, and

said gene expression cassette comprises a polyester synthesis-associated enzyme gene isolated from a bacterium, a promoter isolated from a yeast belonging to the genus Candida, and a terminator isolated from a yeast belonging to the genus Candida.

29. (New) The transformant according to claim 1

the cassette comprising two polyester synthesis-associated enzyme genes, wherein a first of the two genes comprises a polyhydroxyalkanoate synthase gene isolated from *Aeromonas* caviae and a second of the two genes comprises a (R)-specific enoyl-CoA hydratase gene.

30. (New) The transformant according to Claim 29

wherein the polyhydroxyalkanoate synthase gene has the sequence of SEQ ID NO:3 and the (R)-specific enoyl-CoA hydratase gene has the sequence of SEQ ID NO:4.

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